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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/505,289 | 07/14/2005 | Brian Jones | 01898-25808.US | 5179 |
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| THORPE NORTH & WESTERN, LLP. | | | EXAMINER | |
| P.O. Box 1219 | | | THIERKORN, ERNEST G | |
| SANDY, UT 84091-1219 | | | ART UNIT | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|------------------------------|---------------------------------------|-------------------------------------|
| Office Action Summary | Application No. 10/505,289 | Applicant(s) JONES ET AL. |
| | Examiner Ernest G. Therkorn | Art Unit 1797 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on **8/18/08**.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) **1-33** is/are pending in the application.
- 4a) Of the above claim(s) **18-33** is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) **1-17** is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date **8/11/08**
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

Claims 1-17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. No support can be found for "by a heating or cooling member not in contact with the column." A fair reading of the remarks would indicate that these phrases are intended to mean that the column is not in direct thermal contact with the heating or cooling source. However, the specification does not support precluding direct thermal contact with the heating or cooling source. Page 4, lines 1 and 2 of the specification indicates that Figure 1 is an embodiment of the invention. In that embodiment, the tubing and the column are both placed in a single oven. As such, both the tubing and column are in direct contact with the heat source. Page 5, lines 4-8 of the specification indicates in the Figure 2 embodiment that the heating element may be anywhere along tubing 11. This would include direct thermal contact. The specification does not support precluding direct thermal contact with the heating or cooling source because direct thermal contact is all of applicants' heating embodiments. Accordingly, the claims are considered to be directed to new matter.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-17 are rejected under 35 U.S.C. 102(B) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sutton (U.S. Patent No. 6,103,112). The claims are considered to read on Sutton (U.S. Patent No. 6,103,112). However, if a difference exists between the claims and Sutton (U.S. Patent No. 6,103,112), it would reside in optimizing the steps of Sutton (U.S. Patent No. 6,103,112). It would have been obvious to optimize the steps of Sutton (U.S. Patent No. 6,103,112) to enhance separation.

Claims 5, 6, 9, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sutton (U.S. Patent No. 6,103,112) in view of Nickerson (U.S. Patent No. 6,423,120). At best, the claims differ from Sutton (U.S. Patent No. 6,103,112) in reciting up to several hundred watts. Nickerson (U.S. Patent No. 6,423,120) (column 5, lines 35-45) discloses a typical heater must be configured from 60 watts to achieve reasonable heat-up rates. It would have been obvious to use 60 watts in Sutton (U.S. Patent No. 6,103,112) because Nickerson (U.S. Patent No. 6,423,120) (column 5, lines 35-45) discloses a typical heater must be configured from 60 watts to achieve reasonable heat-up rates.

Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sutton (U.S. Patent No. 6,103,112) in view of each of Schneider (U.S. Patent No.

5,238,557), that which is conceded to be old in the paragraph bridging pages 2 and 3 of the specification, Japan Patent No. 62-067449, and Waters (U.S. Patent No. 3,522,725). At best, the claims differ from Sutton (U.S. Patent No. 6,103,112) in reciting that the heating and cooling with a heating or cooling member not in contact with the column. Schneider (U.S. Patent No. 5,238,557) (column 4, lines 42-44) discloses performing heating and cooling away from the column by preheating allows use of less heating power by the column. That which is conceded to be old in the paragraph bridging pages 2 and 3 of the specification indicates that use of a feedback control of a preheater is suitable for wide bore columns. Japan Patent No. 62-067449 (Abstract) discloses that preheating prior to the injection port reduces diffusion. Waters (U.S. Patent No. 3,522,725) (column 3, lines 29-37) discloses that it is sufficient to have the connected ends of the column attached to heat exchanged tubing to maintain column temperature and the drawing pictorially discloses the heating and cooling is away from the column. It would have been obvious to heat and cool with a heating or cooling member not in contact with the column either because Schneider (U.S. Patent No. 5,238,557) (column 4, lines 42-44) discloses performing heating and cooling away from the column by preheating allows use of less heating power by the column; or because that which is conceded to be old in the paragraph bridging pages 2 and 3 of the specification indicates that use of a feedback control of a preheater is suitable for wide bore columns, or because Japan Patent No. 62-067449 (Abstract) discloses that preheating prior to the injection port reduces diffusion, or because Waters (U.S. Patent No. 3,522,725) (column 3, lines 29-37) discloses that it is sufficient to have the

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connected ends of the column attached to heat exchanged tubing to maintain column temperature and the drawing pictorially discloses the heating and cooling is away from the column.

Claims 5, 6, 9, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sutton (U.S. Patent No. 6,103,112) in view of each of Schneider (U.S. Patent No. 5,238,557), that which is conceded to be old in the paragraph bridging pages 2 and 3 of the specification, Japan Patent No. 62-067449, and Waters (U.S. Patent No. 3,522,725) as applied to claims 1-17 above, and further in view of Nickerson (U.S. Patent No. 6,423,120). At best, the claims differ from Sutton (U.S. Patent No. 6,103,112) in view of each of Schneider (U.S. Patent No. 5,238,557), that which is conceded to be old in the paragraph bridging pages 2 and 3 of the specification, Japan Patent No. 62-067449, and Waters (U.S. Patent No. 3,522,725) in reciting up to several hundred watts. Nickerson (U.S. Patent No. 6,423,120) (column 5, lines 35-45) discloses a typical heater must be configured from 60 watts to achieve reasonable heat-up rates. It would have been obvious to use 60 watts in Sutton (U.S. Patent No. 6,103,112) in view of each of Schneider (U.S. Patent No. 5,238,557), that which is conceded to be old in the paragraph bridging pages 2 and 3 of the specification, Japan Patent No. 62-067449, and Waters (U.S. Patent No. 3,522,725) because Nickerson (U.S. Patent No. 6,423,120) (column 5, lines 35-45) discloses a typical heater must be configured from 60 watts to achieve reasonable heat-up rates.

The remarks urge that page 5, lines 4-8 of the specification supports the phrase "by a heating or cooling member not in contact with the column." Page 5, lines 4-8 of

the specification indicates in the Figure 2 embodiment that the heating element may be anywhere along tubing 111. This would include direct thermal contact. As such, this passage does not support precluding direct thermal contact.

The remarks urge that Sutton (U.S. Patent No. 6,103,112) does not heat or cool with a heating or cooling member not in contact with the column. However, Sutton (U.S. Patent No. 6,103,112) on column 12, lines 19-23 discloses use of a coil of capillary tubing prior to the column to establish heat transfer contact with the outer surface. As such, Sutton (U.S. Patent No. 6,103,112) discloses rapid heating or cooling of the fluid with a heating or cooling member not in contact with the column. It is noted that hole 102 is proximate to column 106.

The remarks urge patentability based upon the limitation "by a heating or cooling member not in contact with the column." However, this limitation is considered to be new matter. In any event, Schneider (U.S. Patent No. 5,238,557) (column 4, lines 42-44) discloses performing heating and cooling away from the column by preheating allows use of less heating power by the column. That which is conceded to be old in the paragraph bridging pages 2 and 3 of the specification indicates that use of a feedback control of a preheater is suitable for wide bore columns. Japan Patent No. 62-067449 (Abstract) discloses that preheating prior to the injection port reduces diffusion. Waters (U.S. Patent No. 3,522,725) (column 3, lines 29-37) discloses that it is sufficient to have the connected ends of the column attached to heat exchanged tubing to maintain column temperature and the drawing pictorially discloses the heating and cooling is away from the column. It would have been obvious to heat and cool away by

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a member not in contact with the column either because Schneider (U.S. Patent No. 5,238,557) (column 4, lines 42-44) discloses performing heating and cooling away from the column by preheating allows use of less heating power by the column; or because that which is conceded to be old in the paragraph bridging pages 2 and 3 of the specification indicates that use of a feedback control of a preheater is suitable for wide bore columns, or because Japan Patent No. 62-067449 (Abstract) discloses that preheating prior to the injection port reduces diffusion, or because Waters (U.S. Patent No. 3,522,725) (column 3, lines 29-37) discloses that it is sufficient to have the connected ends of the column attached to heat exchanged tubing to maintain column temperature and the drawing pictorially discloses the heating and cooling is away from the column.

The remarks urge Sutton (U.S. Patent No. 6,103,112) does not rapidly heat his fluid. However, Sutton (U.S. Patent No. 6,103,112) on column 13, lines 9-13 and lines 32-35 discloses rapid and precise heating and cooling.

The remarks urge that Sutton (U.S. Patent No. 6,103,112) does not disclose claim 10's sensor. However, an inspection of Figure 7 reveals that temperature sensor 118 is closer to that portion of tubing 114 closer to column 106 than emerging from prefilter 98.

The remarks urge that Sutton (U.S. Patent No. 6,103,112) does not measure the temperature in the tubing. However, Sutton (U.S. Patent No. 6,103,112) on column 14, lines 7-20 discloses mounting the sensor on the tubing.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to E. Therkorn at telephone number (571) 272-1149. The official fax number is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Ernest G. Therkorn/
Ernest G. Therkorn
Primary Examiner
Art Unit 1797

EGT
September 24, 2008